

Pump Performance Datasheet

Customer	:		Quote Number / ID	:	1143354
Customer ref. / PO	:		Model	:	20955-4P-3HP VLSE
Tag Number	:	Hurley Engineering	Stages	:	1
Service	:	HYDRONIC	Based on curve number	:	VLSE_20955_4P_3HP Rev 0.0
Quantity	:	1	Basic model number	:	-
			Date last saved	:	04/02/2020 3:35 PM

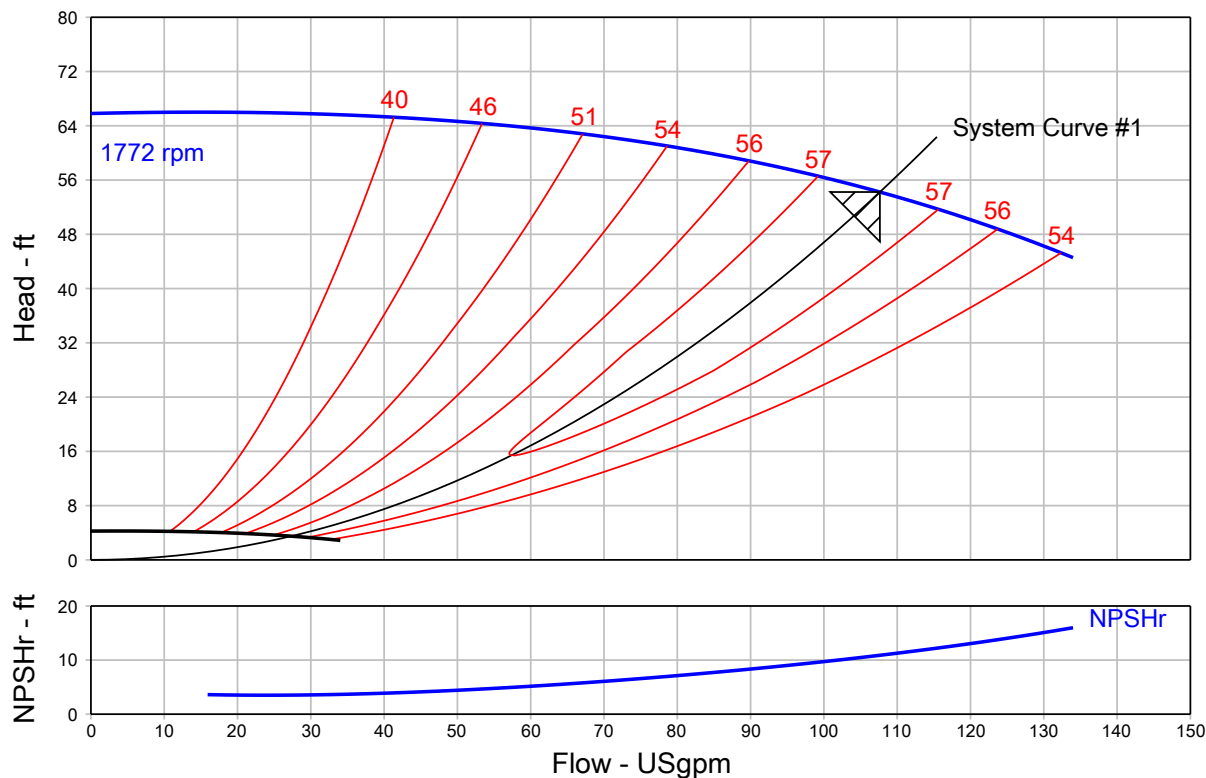
Operating Conditions		Liquid	
Flow, rated	: 107.6 USgpm	Liquid type	: Cold Water
Differential head / pressure, rated (requested)	: 54.23 ft	Additional liquid description	:
Differential head / pressure, rated (actual)	: 54.23 ft	Solids diameter, max	: 0.00 in
Suction pressure, rated / max	: 0.00 / 0.00 psi.g	Solids concentration, by volume	: 0.00 %
NPSH available, rated	: Ample	Temperature, max	: 68.00 deg F
Frequency	: 60 Hz	Fluid density, rated / max	: 1.000 / 1.000 SG

Performance		Material	
Speed, rated	: 1772 rpm	Material selected	: Cast Iron
Speed, maximum	: 1772 rpm		
Speed, minimum	: 450 rpm		

Impeller diameter, rated	: 8.27 in		
Efficiency	: 57.30 %		
NPSH required / margin required	: 10.89 / 0.00 ft		
nq (imp. eye flow) / S (imp. eye flow)	: 19 / 61 Metric units		
MCSF	: 32.67 USgpm		

Head maximum, rated speed	: 66.01 ft		
Head rise to shutoff	: 21.35 %		
Flow, best eff. point	: 107.6 USgpm		
Flow ratio, rated / BEP	: 100.00 %		
Speed ratio (rated / max)	: 100.00 %		
Head ratio (rated speed / max speed)	: 100.00 %		
Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00		
Selection status	: Acceptable		

Energy Indexes		Driver & Power Data (@Max density)	
PEI (VL)	: 0.42	Motor sizing specification	: Max power (non-overloading)
ER (VL)	: 58	Margin over specification	: 0.00 %
		Service factor	: 1.00
		Power, hydraulic	: 1.47 hp
		Rated power (based on duty point)	: 2.57 hp
		Max power (non-overloading)	: 2.82 hp
		Nameplate motor rating	: 3.00 hp / 2.24 kW (Fixed)



Grundfos Series VLSE - Split Coupled Vertical In-Line with Integrated VFD

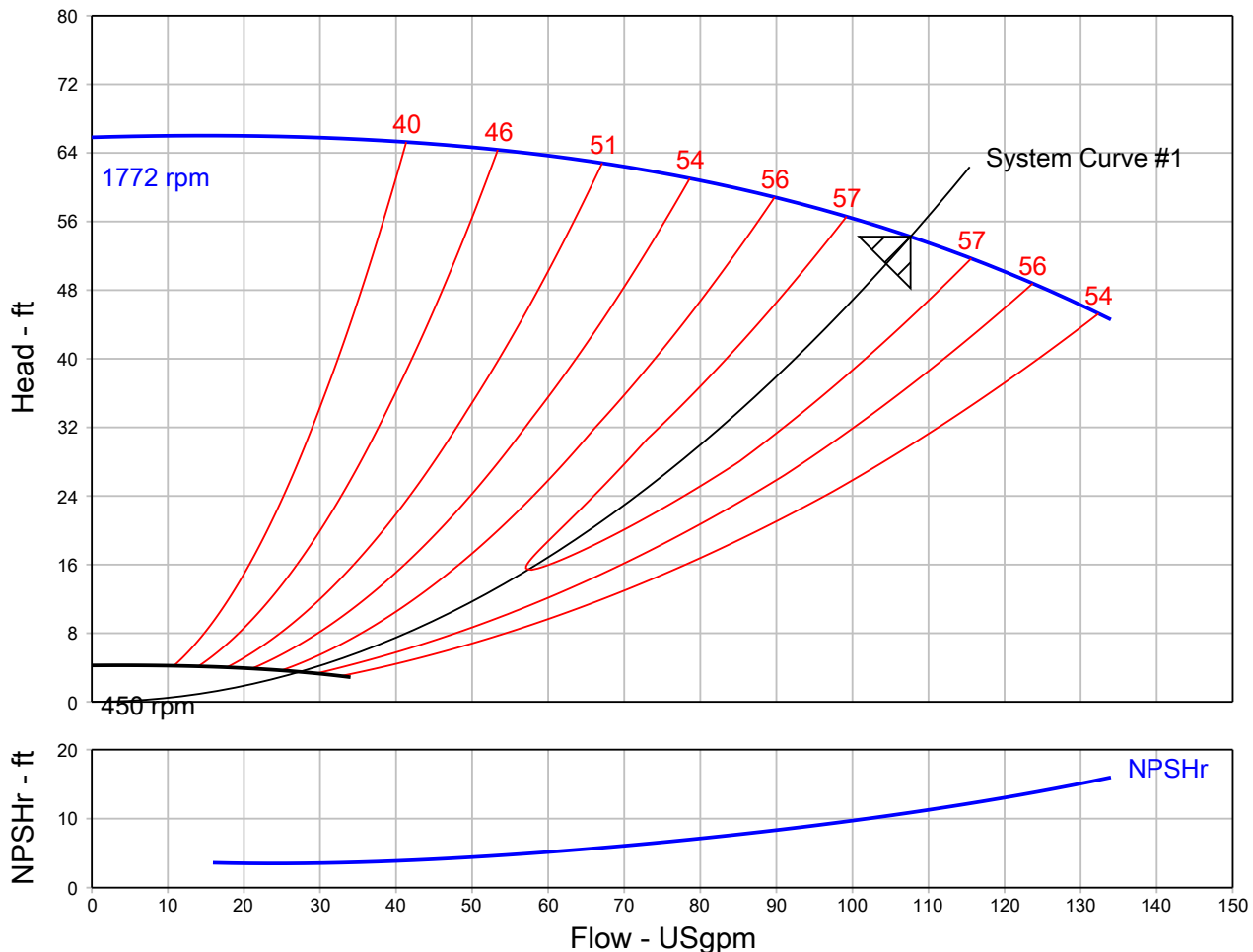
QUOTE NUMBER / ID 1143354	UNIT TAG Hurley Engineering	QUANTITY 1
	SERVICE HYDRONIC	
REPRESENTATIVE	SUBMITTED BY	DATE
ENGINEER	APPROVED BY	DATE
CONTRACTOR	ORDER #	DATE



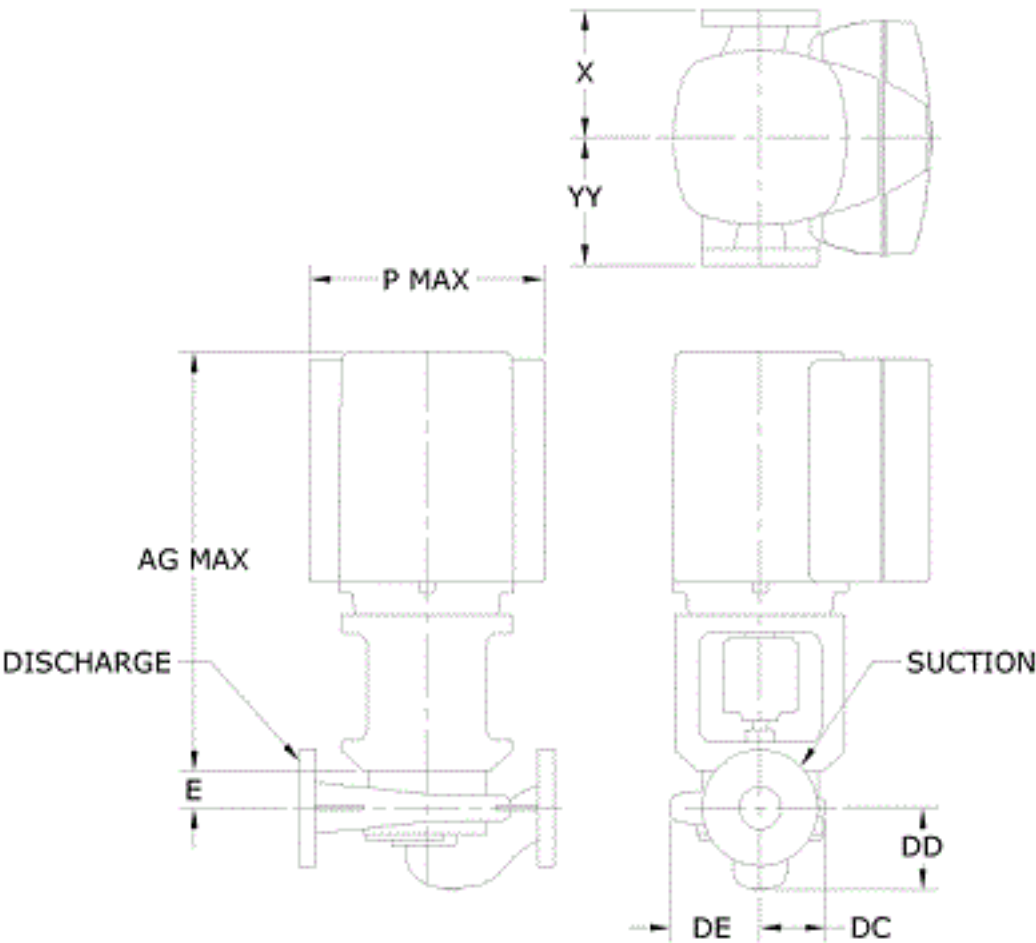
VLSE 20955-4P-3HP
1800 rpm

Part N/A
Number

Conditions of Service		Pump Data		Motor Data	
Flow	107.6 USgpm	Impeller Diameter	8.27 in	Motor HP	3 HP
Head	54.23 ft	Efficiency	57.3 %	BHP	2.57
Liquid	Cold Water	Suction	2 in.	Enclosure	TEFC
Temperature	68.00 deg F	Discharge	2 in.	Voltage	460 V
NPSHr	10.89 ft	PEI (VL)	0.42	Phase	3 Phase
Viscosity	1.00 cP	ER (VL)	58	Cycle	60
Specific Gravity	1.000 SG			Frame Size	182TC



Grundfos Series VLSE - Split Coupled Vertical In-Line with Integrated VFD



NOT FOR CONSTRUCTION, unless certified and referenced on order

Units	Frame	S x D	AG (Max)	DC	DD	DE	E	P (Max)	X	YY
inches	182TC	2 X 2	28.50	6.00	4.88	6.25	1.50	13.30	9.00	9.00

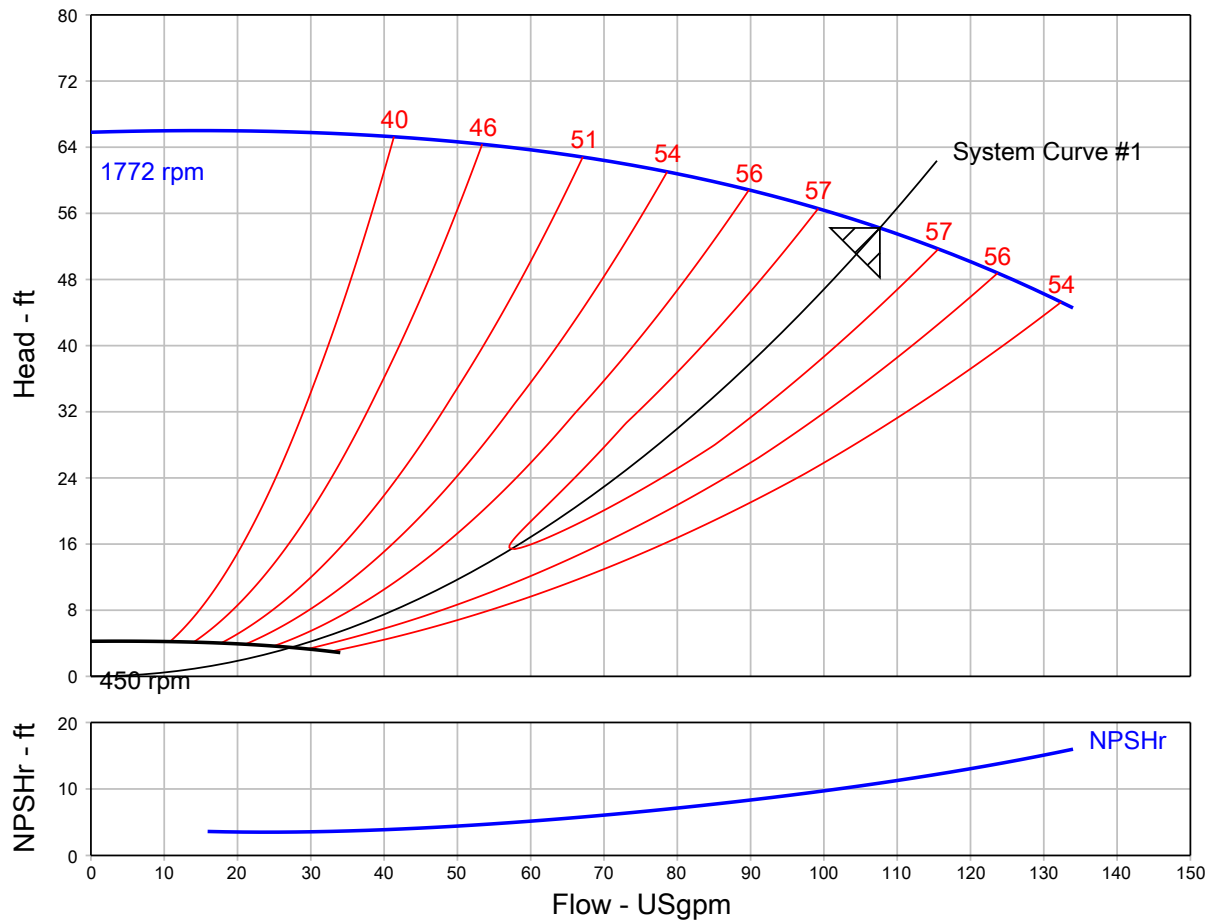
Grundfos Series VLSE - Split Coupled Vertical In-Line with Integrated VFD

QUOTE NUMBER / ID 1143354	UNIT TAG Hurley Engineering	VLSE 20955-4P-3HP
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MATERIALS OF CONSTRUCTION			
PART	MATERIAL	PART	MATERIAL
Rotation Options	Clockwise	Impeller Washer	S.S., AISI-303
Base/Stand Type	No Stand Provided	Impeller Key	S.S., AISI-303
Connections	125# ANSI	Sleeve Material	Bronze, III932, C89835 or No Sleeves
Coupling Options	Rigid Radially Split Coupling	Wear Ring Type	Case Wear Ring
Wear Ring Material	NiAl-Bronze, ASTM-B148, C95500	Pump Coatings	Standard Paint
Seal Type	Type 21	Seal Material	Ceramic/Carbon/Buna
Casing	Cast Iron, ASTM-A48, CL 30	O-Rings	Buna N
Motor Shaft	Steel, AISI 1045 or S.S	Seal Flush Options	External Flush, plastic tubing
Backplate/Seal Plate	Cast Iron, ASTM-A48, CL 30	Gaskets	Vegetable Fiber
Motor Bracket	Cast Iron, ASTM-A48, CL 30	Casing Bolts	Steel, Grade 5
Impeller	Stainless Steel, AISI-304	Impeller Cap Screw	S.S., AISI-303

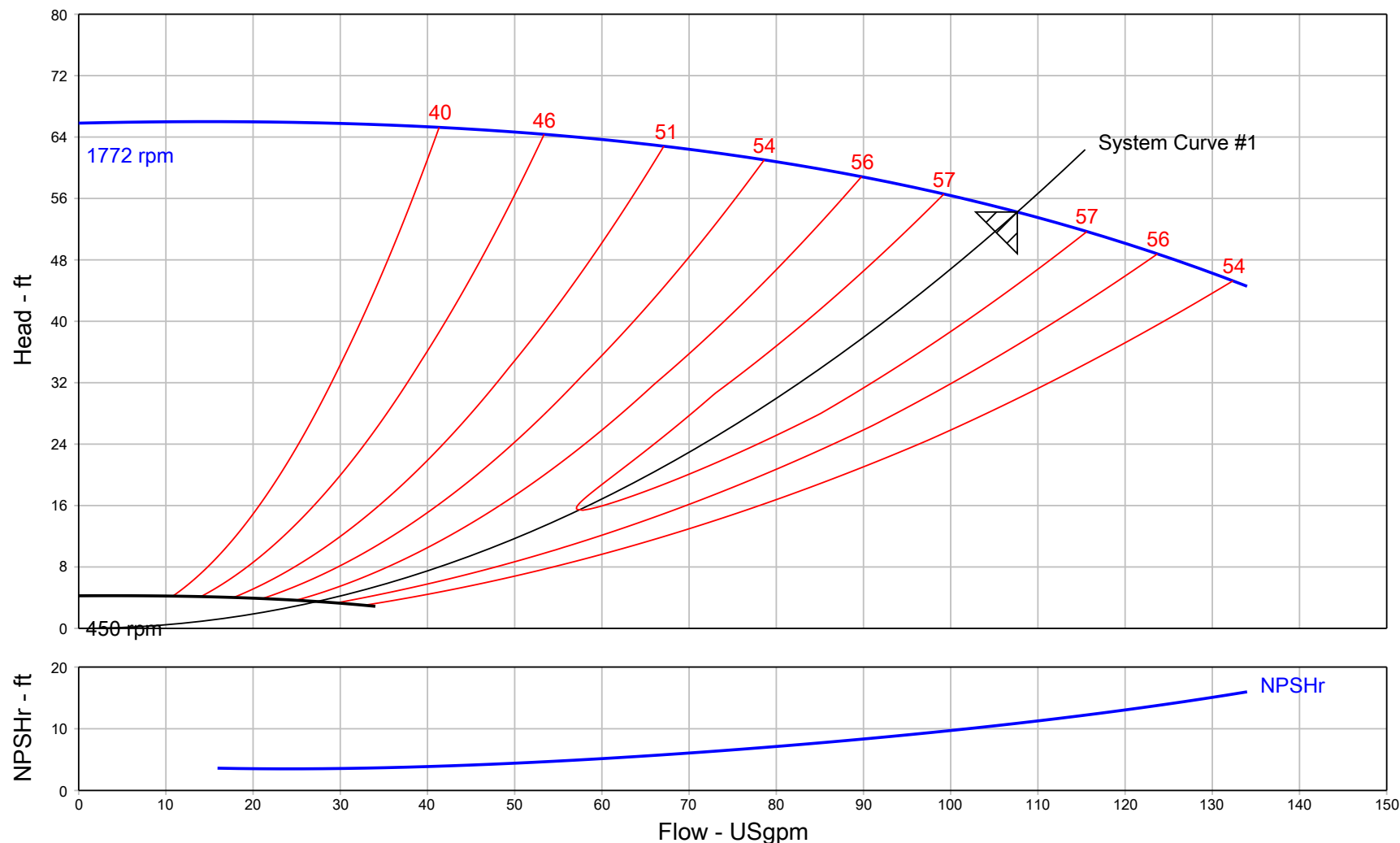
* All materials based on STANDARD configuration

Pump Performance Curve



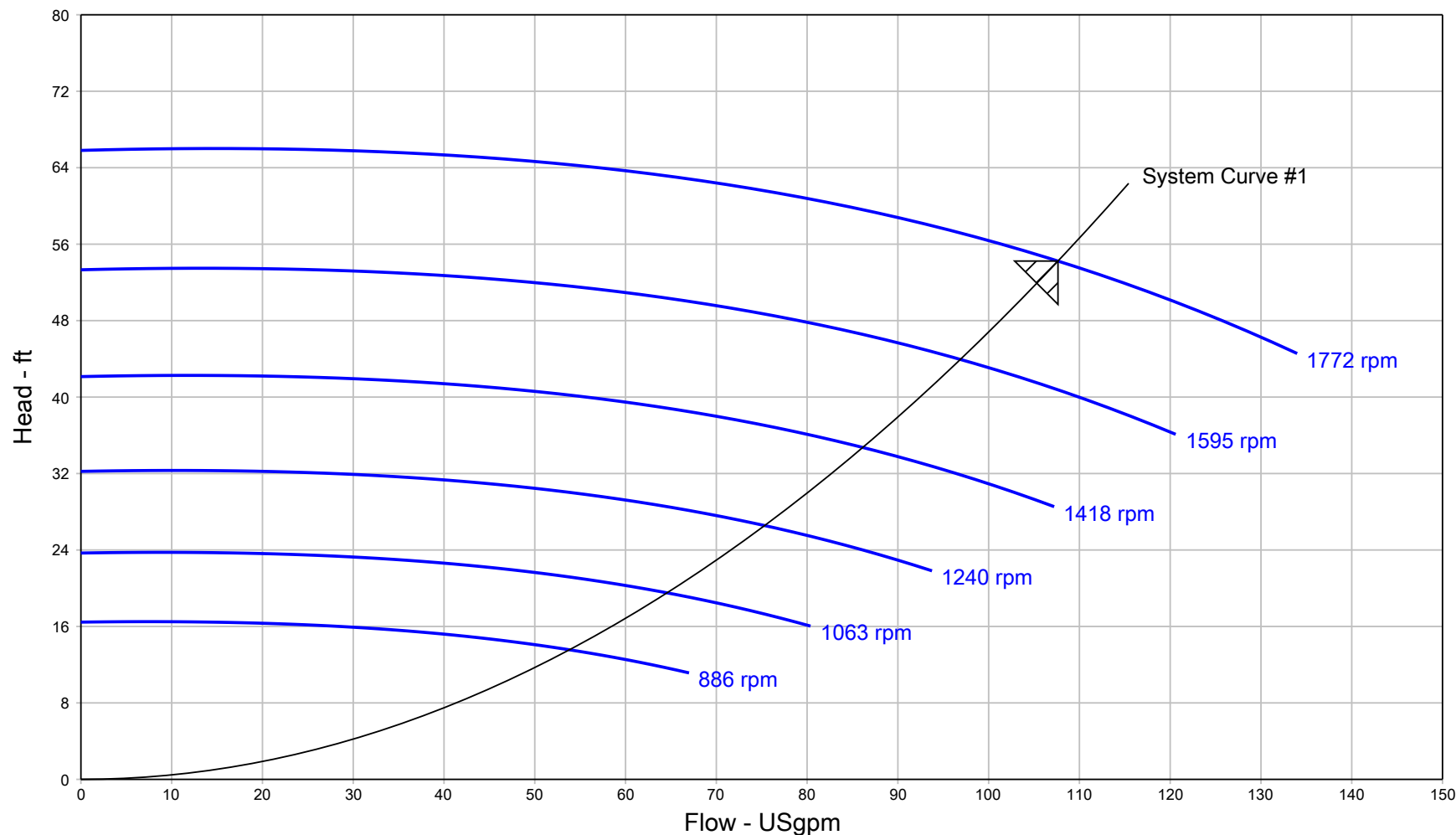
Customer	:	Model	: 20955-4P-3HP VLSE
Customer ref. / PO	:	Stages	: 1
Tag Number	: Hurley Engineering	Speed, rated	: 1772 rpm
Service	: HYDRONIC	Based on curve number	: VLSE_20955_4P_3HP Rev 0.0
Quantity	: 1	Efficiency	: 57.30 %
Quote Number / ID	: 1143354	Rated power (based on duty point)	: 2.57 hp
Date last saved	: 04/02/2020 3:35 PM	NPSH required	: 10.89 ft
Flow, rated	: 107.6 USgpm	Viscosity	: 1.00 cP
Differential head / pressure, rated	: 54.23 ft	Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00
Fluid density, rated / max	: 1.000 / 1.000 SG	Impeller diameter, rated	: 8.27 in
		PEI (VL)	: 0.42
		ER (VL)	: 58

Pump Performance Curve



Project name	: VLSE project	Tag Number	: Hurley Engineering	Flow, rated	: 107.6 USgpm
Consulting engineer	:	Service	: HYDRONIC	Differential head / pressure, rated	: 54.23 ft
Customer	:	Model	: 20955-4P-3HP VLSE	Rated power (based on duty point)	: 2.57 hp
Customer ref. / PO	:	Quantity	: 1	Max power (non-overloading)	: 2.82 hp
Quote Number / ID	: 1143354	Quoted By (Sales Office)	: HURLEY ENGINEERING COMPANY	Efficiency	: 57.30 %
Date last saved	: 04/02/2020 3:35 PM	Quoted By (Sales Engineer)	: Steven Leingang	Impeller diameter, rated	: 8.27 in
Based on curve number	: VLSE_20955_4P_3HP Rev 0.0	Stages	: 1	PEI (VL)	: 0.42
		Speed, rated	: 1772 rpm	ER (VL)	: 58

Multi-Speed Performance Curve



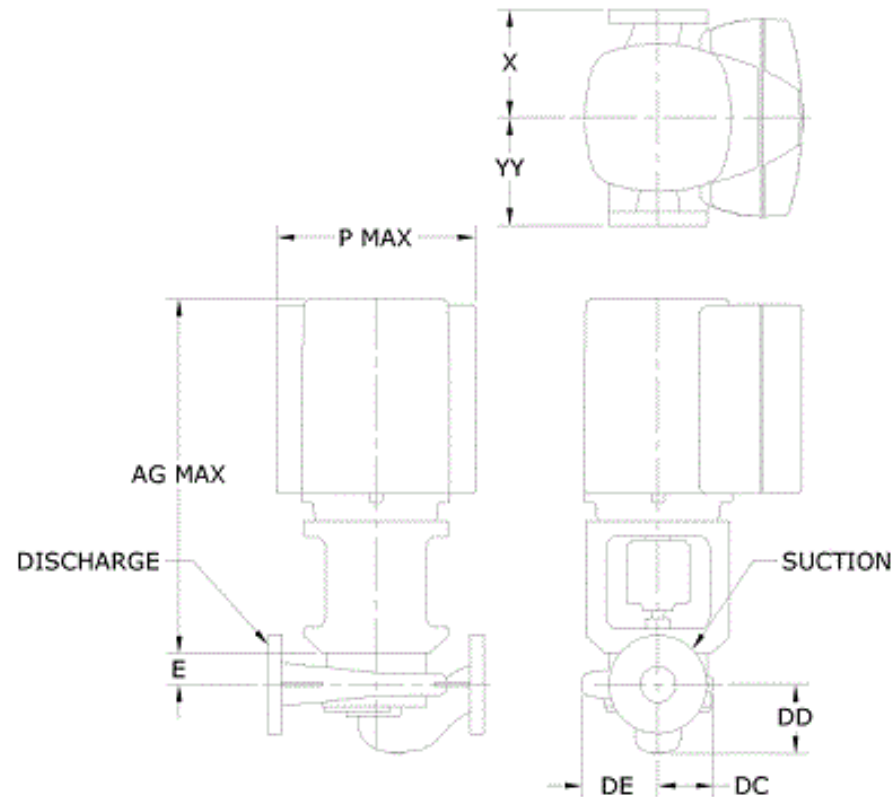
Project name	: VLSE project	Tag Number	: Hurley Engineering	Speed, rated	: 1772 rpm
Consulting engineer	:	Service	: HYDRONIC	Flow, rated	: 107.6 USgpm
Customer	:	Model	: 20955-4P-3HP VLSE	Differential head / pressure, rated	: 54.23 ft
Customer ref. / PO	:	Quantity	: 1	Fluid density, rated / max	: 1.000 / 1.000 SG
Quote Number / ID	: 1143354	Quoted By (Sales Office)	: HURLEY ENGINEERING COMPANY	Viscosity	: 1.00 cP
Date last saved	: 04/02/2020 3:35 PM	Quoted By (Sales Engineer)	: Steven Leingang	Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00
		Stages	: 1	Based on curve number	: VLSE_20955_4P_3HP
				Rev 0.0	

Construction Datasheet

Project name : VLSE project				Tag Number : Hurley Engineering	
Consulting engineer :				Service : HYDRONIC	
Customer : HURLEY ENGINEERING COMPANY				Model : 20955-4P-3HP VLSE	
Customer ref. / PO :				Quantity : 1	
Quote Number / ID : 1143354				Quoted By (Sales Office) : HURLEY ENGINEERING COMPANY	
Date last saved : 04/02/2020 3:35 PM				Quoted By (Sales Engineer) : Steven Leingang	
Construction				Motor Information	
Nozzle	Size (in.)	Nozzle Configuration	Pos'n	Manufacturer : Grundfos MLE, HMI 300	
Suction	2	125# ANSI	-	Frame Size : 182TC	
Discharge	2	125# ANSI	-	Power : 3.00 hp	
Orientation / Configuration : Vertical				RPM : 1800 rpm	
Rotation : Clockwise				Enclosure : TEFC	
Wear Ring Configuration : Single - Case				Operating Power Supply : 460/3/60	
Discharge Elbow Size : -				Efficiency : IE5	
Subplate : -				Service factor : 1.15	
Sump Depth (feet) : -				Motor Application : Intergrated Variable Frequency Drive	
Bearing Frame : -				Motor Options/Accessories : -	
Bearing Frame Foot : -				Cord Length (feet) : -	
Bearing Type (Radial/Thrust) : -				Materials	
Bearing Lubrication : Regreasable				Case : Cast Iron, ASTM A48 - Class 30	
Thrust Bearing : -				Motor Bracket : Cast Iron, ASTM-A48, CL 30	
Intermediate Bearing : -				Impeller : Stainless Steel, AISI-304 (H304)	
Lower Bearing : -				Impeller Cap Screw and Washer : Stainless Steel, AISI-303	
Bearing Housing Accessories : -				Impeller Key : Stainless Steel, AISI 316	
PACO Construction code : 28-20955-130268-25B2MS1				Case wear ring : Tin Bronze, ASTM B584-90500 (B18)	
Baseplate, Coupling and Guard				Impeller wear ring : -	
Baseplate : Not Applicable				Pump Shaft : Stainless Steel, AISI-303	
Drip Pan : -				Sleeve : -	
Coupling : Rigid, Axial Split Coupling (aluminum) RASC1				Line Shaft : -	
Guard : OSHA Approved				Column : -	
Seal & Packing Construction				Discharge Pipe : -	
Sealing Method : Single Seal, Type 21				Discharge Elbow : -	
Seal Material : Buna Carbon Ceramic SS-Spring and Hardware				Suction Elbow : -	
Packing Gland : -				Subplate : -	
Lantern Ring : -				Hardware : Steel, Grade 5	
Recirculation Lines : Nylon Tubing with Brass Fittings				O Rings : Buna N	
Weights (Approx.)				Pump Coatings : Standard Manufacturers Paint	
Pump : 119.0 lb					
Baseplate : -					
Driver : 56.79 lb					
Estimated Shipping gross weight : 175.8 lb					

General Arrangement

Project name	: VLSE project	Tag Number	: Hurley Engineering
Consulting engineer	:	Service	: HYDRONIC
Customer	: HURLEY ENGINEERING COMPANY	Model	: 20955-4P-3HP VLSE
Customer ref. / PO	:	Quantity of pumps	: 1
Quote Number / ID	: 1143354	Quoted By (Sales Office)	: HURLEY ENGINEERING COMPANY
Date last saved	: 04/02/2020 3:35 PM	Quoted By (Sales Engineer)	: Steven Leingang



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Units	Frame	S x D (in.)	AG (Max)	DC	DD	DE	E	P (Max)	X	YY	Weight ea
inches	182TC	2 X 2	28.50	6.00	4.88	6.25	1.50	13.30	9.00	9.00	175.8
Conditions of Service			Motor Data								
Flow: 107.6 USgpm	Fluid: Cold Water	HP: 3	Encl: TEFC			Phase: 3			Efficiency: IE5		
TDH: 54.23 ft	Temp.: 68.00 deg F	RPM: 1800 rpm	Hz: 60			Voltage: 460			S.F.: 1.15		

